

CITY OF READING

**TECHNICAL
SPECIFICATIONS**

**RECYCLING CENTER BALER
FACILITY RENOVATIONS**

SECTION 01100 - SUMMARY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Work covered by the Contract Documents
 - 2. Type of Contract
 - 3. Time of Completion
 - 4. Use of premises
 - 5. Work restrictions
- B. Related sections include the following:
 - 1. Division 01 section "Temporary Facilities" for limitations and procedures governing temporary use of Owner's facilities.

1.03 WORK COVERED BY THE CONTRACT DOCUMENTS

- A. Project Identification: Replacing and repairing existing Fire Station and EMS Building roofing and water infiltration problems.
 - 1. Project Locations:
 - a. Hill Road – Public Works / Recycling Facility, Reading, PA; Located behind Engleman Park
- B. Owner: City of Reading
 - 1. Owner's Representatives: Mr. Ralph Johnson and/or Mr. David Ruyak, Department of Public Works; Mr. Frank Denbowski, Recycling / Solid Waste Division
- C. Construction Manager: Mr. Franklin D. Watts, R.A., BURKEY Construction Co.
 - 1. A Construction Manager has been engaged for this Project to serve as an advisor to the Owner and to provide assistance in administering the Contract for Construction between Owner and each Contractor, according to separate contract between Owner and Construction Manager.
- D. The work consists of the following:
 - 1. Baler Facility Renovations: Site work to include trenching for electrical feed from existing pole located on Hill Road near entrance to site to building. Electrical work includes installation of new meter, transformers, lighting, power outlets, etc. Demolition work includes removal of existing OH doors, asphalt floor, etc. General Construction work includes new concrete slab on grade floor, apron, new OH doors, new emergency egress exit door, etc.

Bid Alternates: This project includes several bid alternates. Refer to drawings and Alternate Section of Specs for additional information on these items.

See attached drawings and specs for additional information.

1.04 TYPE OF CONTRACT

- A. Project will be constructed under a single General Construction Contractor.

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1.05 TIME OF COMPLETION

- A. The work shall be completed in a single phase without limitations.
- B. Entire work of the Contract shall be Substantially Complete not later than 90 calendar days from the Notice to Proceed.
 - 1. The Owner reserves the right to delay issuance of the Notice to Proceed beyond the date indicated above. The sole remedy available to the Contractor shall be an extension of the Contract completion date by the same number of days as the delay in issuance of the Notice to Proceed. No changes in the Contract sum will be permitted as a result of this delay.

1.06 USE OF PREMISES

- A. General: The facilities will remain in operation and the Contractor shall be responsible for maintaining access, egress and safety for the building occupants while construction operations occur. Contractor shall provide appropriate dust protection and barricade protection to protect building occupants from construction activities.

1.07 WORK RESTRICTIONS

- A. On-site work hours: Work shall be generally performed during the normal business working hours of 7:00 am to 5:00 pm, Monday through Friday, unless otherwise indicated or approved in writing by the Owner.
 - 1. Weekend Hours: Only with approval from the Owner and Authorities having jurisdiction.
 - 2. Early Morning Hours: Only with approval from the Owner and Authorities having jurisdiction.
 - 3. Hours for Utility Shutdowns: Not restricted, however a minimum of 48 hours notice must be given.
 - 4. Hours for Activities creating noise shall be limited to 8:00 am until 5:00 pm.
- B. Smokeless tobacco and smoking in any form are prohibited on the site or within any structure at any phase of construction.
- C. Contractor shall comply with all City of Reading regulations and policies while on City property, as well as any special regulations adopted by the Owner relating to the project. Contractors, subcontractors, and their agents shall not socialize with employees of the City.
- D. Inappropriate language, dress or conduct will not be tolerated on the construction site. Violations of the above will be grounds for dismissal.
- E. Identification. The Owner reserves the right to require all construction employees to be visually identified by the use of badges and / or clothing identifying their company representation.
- F. Any persons violating any of the above requirements shall be subject to immediate and permanent exclusion from the construction site.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01120 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Section 01153 Change Order Procedures

1.2 DEFINITIONS

- A. Unit price is an amount proposed by bidders, stated on the Bid Sheet, and incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in the Bid Sheet and/or included in Part 3. Specification sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price No. 1: RESERVED
 - 1. Description: RESERVED
 - 2. Unit of Measurement: RESERVED

END OF SECTION

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SECTION 01130 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes description of and administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. An alternate is and an amount proposed by bidders and stated on the Bid Sheet for defined certain work that may be added or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 ACCEPTANCE OF ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted alternates will be identified in the Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work to integrate the Work of each alternate. The cost for each alternate shall include costs of related coordination, modification or adjustment.
 - 1. Include as part of each alternate miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of the alternate.
- C. Execute accepted alternates under the same conditions as other work of the Contract.

1.4 SCHEDULE OF ALTERNATES

- A. Alternate A1: (Add) - Removal and replacement of existing concrete column, including installation of new steel beam.
 - 1. Base Bid: Existing column and roof framing to remain.
 - 2. Alternate A1 - Refer to drawings for scope of work pertaining to this item.
- B. Alternate A2: (Add) – New motorized overhead garage doors in lieu of manual doors
 - 1. Base Bid: New manually operated garage doors. Power for future installation of motor/controller for doors to be provided and installed.
 - 2. Alternate A2 - Refer to drawings for scope of work pertaining to this item.
- C. Alternate A3: (Add) – New exterior storage bunker.
 - 1. Base Bid: 5'x5' concrete slab on grade at new exterior door.
 - 2. Alternate A3 – Refer to drawings for scope of work pertaining to this item.
- D. Alternate A4: (Add) – Painting of existing interior cmu walls.
 - 1. Base Bid: Existing wall finish to remain; scope of painting limited to new work only.
 - 2. Alternate A4 - Refer to drawings for scope of work pertaining to this item.
- E. Alternate A5: RESERVED

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PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

SECTION 01152 - APPLICATIONS FOR PAYMENT FOR ALL CONTRACTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.
 - 1. Multiple Prime Contracts: Provisions of this Section apply to the Work of each prime contractor.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's Application for Payment.
- B. This Section specifies administrative and procedural requirements governing each Prime Contractor's Applications for Payment.
 - 1. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule. List of Subcontracts and Submittal Schedule.
- C. This Section specifies prevailing wage certified payroll procedures.
- D. The Contractor's Construction Schedule and Submittal Schedule are included in other Section.

1.03 SCHEDULE OF VALUES

- A. Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
- B. Each Prime Contractor shall coordinate preparation of its Schedule of Values for its part of the Work with preparation of the Contractors' Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 - a. Contractor's construction schedule
 - b. Application of Payment form
 - c. List of subcontractors
 - d. Schedule of alternates
 - e. List of products
 - f. List of principal suppliers and fabricators
 - g. Schedule of submittals
 - h. Included general labor hours if included in bid package descriptions
 - i. Include line item for daily and final cleanup
 - j. Separate line item for mobilization and demobilization as long as the values are the same.
 - k. Separate line item for closeout requirements to be 0.75% of contract value.
 - l. Separate line item for punch list.
 - m. Separate line item for safety.
 - n. Separate line item for project management.
 - o. All items should include a breakdown of material, labor and equipment as it applies.
 - 2. Submit the Schedule of Values within 15 days of award of contract.
 - 3. Sub-Schedules: Where the Work is separated into phases that require separately phased payments, provide sub-schedules showing values correlated with each phase of payment.
- C. The Owner may pay for off site stored materials, at their discretion and through consultation with the Architect and Construction Manager, provided the following requirements are met:

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1. Prime Contractor must provide insurance certificate indicating materials specifically insured. Materials remain Prime Contractor's insurance responsibility until they are delivered to the job site, which is when the Owner's Builder's Risk goes into effect. Reference insurance specifications.
 2. Materials shall be segregated and clearly marked with the Owner's name and project name.
 3. Prime Contractor must provide a fully executed "Bill of Sale".
 4. Prime Contractor must provide proof (through personal inspection by Owner Representative) that materials noted can be physically verified. Prime Contractor shall reimburse the Owner for all reasonable expenses associated with representative's inspection trip.
 5. Materials must be stored within an insured facility within the State.
- D. Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values.
1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location
 - b. Name of Architect
 - c. Project number
 - d. Contractor's name and address
 - e. Date of submittal
- E. Arrange the Schedule of Values in a tabular form with separate columns to indicate the following for each item listed:
- a. Generic name
 - b. Related Specification Section
 - c. Name of subcontractor
 - d. Name of manufacturer or fabricator
 - e. Name of supplier
 - f. Change Orders (numbers) that have affected value
 - g. Dollar value
 - h. Percentage of Contract Sum to the nearest one-hundredth percent, adjusted to total 100 percent
 - i. Line item for labor
 - j. Line item for material
 - k. Line item for equipment
1. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items.
 2. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.
 3. For each part of the Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 4. Margin of Cost: Show line items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete including its total cost and proportionate share of general overhead and profit margin.
 - a. At the Contractor's option, temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown as separate line items in the Schedule of Values or distributed as general overhead expense.
 5. Schedule Updating: Update and resubmit the Schedule of Values when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.04 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and/or Construction Manager and paid for by the Owner.
1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involved additional requirements,

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- B. Payment Application Times: Each progress payment date is as indicated in the Agreement. The period of construction Work covered by each Application or Payment is the period indicated in the Agreement.
- C. Payment Application Times: Pay applications are due on the 20th day of each month with work projected through the end of the calendar month or as required by the Owner to meet their payment cycles.
- D. Payment Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Application for Payment or similar approved forms.
- E. Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the owner. Incomplete applications will be returned without action.
1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
 2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- F. Transmittal: Submit 5 executed copies of each Application for Payment to the Construction Manager by means ensuring receipt within 24 hours; one copy shall be complete, including No Lien Agreement and similar attachments, when required.
1. Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Architect.
 2. Transmit along with the Application for Payment the following:
 - a. Construction progress schedule, revised and current as specified in Section 013000.
 - b. Current construction photographs as specified in Section 013000.
 - c. Partial release of liens from major subcontractors and vendors.
 - d. The paperwork as described in the section regarding application for stored materials.
- G. Waivers of Mechanics Lien: With each Application for Payment, Submit waivers of mechanics lien from every entity who may lawfully be entitled to file a mechanics lien arising out of the Contract, and related to the Work covered by the payment.
1. Waiver Delays: Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period of construction covered by the application.
 - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of Work covered by the application who could lawfully be entitled to a lien.
 2. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:
1. List of subcontractors.
 2. List of principal suppliers and fabricators.
 3. Schedule of Values.
 4. Contractor's Construction Schedule.
 5. Schedule of principal products.
 6. Schedule of unit prices.
 7. Submittal Schedule (preliminary if not final).
 8. List of Contractor's staff assignments.
 9. Copies of building permits.
 10. Copies of authorizations and licenses from governing authorities for performance of the Work.
 11. Initial progress report.
 12. Report of pre-construction meeting.
 13. Certificates of insurance and insurance policies.
 14. Performance and payment bonds (if required).
 15. Data needed to acquire Owner's insurance.
 16. MSDS sheets.
 17. Safety sheet.

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- I. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment; this application shall reflect any Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

Administrative actions and submittals that shall proceed or coincide with this application include:

1. Occupancy permits and similar approvals.
2. Warranties (guarantees) and maintenance agreements.
3. Test/adjust/balance records.
4. Maintenance instructions.
5. Meter readings:
6. Start-up performance reports.
7. Change-over information related to Owner's occupancy, use, operation and maintenance.
8. Final cleaning.
9. Application for reduction of retainage, and consent of surety.
10. Advice on shifting insurance coverages.
11. Final progress photographs.
12. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion

- J. Final Payment Application: Administrative actions and submittals which must precede or coincide with submittal of the final payment Application for Payment include the following:

1. Completion of Project closeout requirements.
2. Completion of items specified for completion after Substantial Completion.
3. Assurance that unsettled claims will be settled.
4. Assurance that Work not complete and accepted will be completed without undue delay.
5. Transmittal of required Project construction records to owner.
6. Certified property survey.
7. Proof that taxes, fees and similar obligations have been paid.
8. Removal of temporary facilities and services.
9. Removal of surplus materials, rubbish and similar elements.
10. Change of door locks to Owner's access.
11. Consent of Surety for Final Payment form.

1.05 PREVAILING WAGE CERTIFIED PAYROLL PROCEDURES

- A. Upon the start of work at the jobsite, each and every contractor, subcontractor, and/or lower-tier subcontractor(s) must provide a certified payroll for each week, without exception, on a weekly basis. If no work is performed for any given week, a Certified Payroll form must be submitted for that specific week marked "NO WORK PERFORMED." The top headings of the first page and the entire second page of the form must be completely filled in and signed each week. The first and last submissions must be notarized.
- B. Pennsylvania Labor & Industry form LLC-25 is the only acceptable form. Any Certified Payrolls submitted on the Federal form will be rejected and returned for resubmission on the State form.
- C. Computer printouts will only be accepted if they provide exactly what the State form requires. Computer printouts must be attached to the LLC-25 form for submission.
- D. The Base Hourly Rate column and the Total Fringe Benefits column must be expressed in hourly dollar values, not totals. The total of the two columns must add up to the total rate in the Wage Decision.
- E. Non-union contractors must provide a breakdown of fringe benefits by employee if each employee receives different fringe benefits. A dollar value range will NOT be accepted in the Fringe Benefits Explanation on page 2 of the Certified Payroll form.
- F. Weekly Certified Payroll forms are to be provided in duplicate.

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- G. Each Prime Contractor is responsible for the review of their lower-tier subcontractors before submission to the Construction Manager. Incorrect forms will be returned to the responsible Prime Contractor for resolution.
- H. Monthly payments will be withheld if certified payrolls are not correctly submitted and up to date.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01153 - CHANGE ORDER PROCEDURES

PART 1 - GENERAL

1.01 PURPOSE

- A. This section specified minimum administrative and procedural requirements necessary for handling and processing Contract modifications.
- B. Multiple Prime Contracts: Provisions of this section apply to the work of each Prime Contractor.

1.02 RELATED REQUIREMENTS

- A. Division 1 Section 01120, Description of Unit Prices for administrative requirements governing use of unit prices.
- B. Division 1 Section 01152, Application for Payment for all Contracts for administrative procedures governing applications for payment.
- C. Division 1 Section 1310, Construction Schedules, for requirements for the contractor's construction schedule.
- D. Division 1 Section 01600, Material and Equipment, Substitutions, for administrative procedures for handling requests for substitutions made after award of the Contract.

1.03 MINOR CHANGES IN THE WORK

Supplemental instructions authorizing minor changes in the Work, not involving an adjustment to the Contract Sum or Contract Time, will be issued by the Architect through the Construction Manager on AIA Form G710, Architect's Supplemental Instruction.

1.04 CHANGE ORDER PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time, will be issued by the Construction Manager, with a detailed description of the proposed change and supplemental or revised Drawings and Specifications, if necessary.
 - 1. Detailed description of the change, products, and location of the change in the Project.
 - 2. Supplementary or revised Drawings and Specifications.
 - 3. The projected time span for implementing the change.
 - 4. A specific period of time during which the requested price will be valid.
 - 5. Such request is for information only, and is not an instruction to execute the changes, nor to stop Work in progress.
 - 6. Unless otherwise indicated in the proposal request, within 5 days of receipt of the proposal request, submit to the Construction Manager for the Owner's review, an estimate of cost necessary to execute the proposed change.
- B. Contractor may initiate proposed changes by submitting a written notice to the Architect through the Construction Manager, containing:
 - 1. Description of the proposed changes.
 - 2. Statement of the reason for making the changes.
 - 3. Statement of the effect on the Contract Sum and the Contract Time.
 - 4. Statement of the effect on the work of other Contractors.
 - 5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.05 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: When the Owner and Contractor are not in total agreement on the terms of a Change Order Proposal Request, the Construction Manager may issue a Construction Change Directive on AIA Form G714/CMA, or other written directive, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

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1. The Construction Change Directive will contain a complete description of the change in the Work and designate the method to be followed to determine change in the Contract Sum or Contract Time.
 2. Owner, Construction Manager, and Architect will sign and date the Construction Change Directive as authorization for the Contractor to proceed with the changes.
 3. Contractor shall sign and date the Construction Change Directive to indicate agreement with the items therein.
- B. Documentation: Maintain detailed records on a time and material basis of Work required by the Construction Change Directive.
1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract within 5 days of completion of change. Construction Manager will then prepare the appropriate Change Order accordingly.

1.06 DOCUMENTATION OF PROPOSALS AND CLAIMS

- A. Support each quotation for a lump sum proposal, and for each unit price which has not previously been established, with sufficient substantiating data to allow Architect and Construction Manager to evaluate the quotation.
- B. On each proposal request, provide additional data to support time and cost computations; including, but not limited to, the following:
1. Labor required (estimated labor hours).
 2. Equipment required.
 3. Products required:
 - a. Recommended source of purchase and unit cost.
 - b. Quantities required.
 4. Taxes, insurance, and bonds.
 5. Credit for work deleted from Contract, similarly documented.
 6. Overhead and profit applicable to direct costs.
 7. Justification for any change in Contract Time.
- C. Support each claim for additional costs and for work done on a Construction Change Directive basis, with documentation as required for a lump sum proposal, plus the following additional information:
1. Name of the Owner's authorized agent who ordered the work, and date of the order.
 2. Dated and times work was performed and by whom.
 3. Time record, summary of hours worked, and hourly rated paid.
 4. Receipts and invoices for:
 - a. Equipment used, listing dated and time of use.
 - b. Products used, listing of quantities.
 - c. Subcontracts.
- D. Document requests for substitutions for Products as specified in Division 1 Section "Product Substitutions".

1.07 PREPARATION OF CHANGE ORDERS

- A. Construction Manager will prepare each Change Order.
- B. Change Order Form: AIA Document G701/CMA.
- C. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.
1. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

1.08 LUMP SUM/FIXED PRICE CHANGE ORDER

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- A. Content of Change Orders will be based on either:
 - 1. Construction Manager's Proposal Request and Contractor's responsive Proposal as mutually agreed between Owner and Contractor; or
 - 2. Contractor's Proposal for a change, as recommended by Construction Manager and Architect.
- B. Owner, Construction Manager and Architect will sign and date the Change Order as authorized for the Contractor to proceed with the changes.
- C. Contractor shall sign and date the Change Order to indicate agreement with the terms therein.

1.09 UNIT PRICE CHANGE ORDER

- A. Content of Change Orders will be based on either:
 - 1. Architect's definition of the scope of the required changes.
 - 2. Contractor's Proposal for a change, as recommended by the Construction Manager and Architect.
 - 3. Survey of the completed work.
- B. The amount of the unit prices to be:
 - 1. Those stated in the Agreement.
 - 2. Those mutually agreed upon between Owner and Contractor.
- C. When quantities of each of the items affected by the Change Order can be determined prior to the start of the Work:
 - 1. Owner, Construction Manager, and Architect will sign and date the Change Order as authorization for Contractor to proceed with the changes.
 - 2. Contractor shall sign and date the Change Order to indicate agreement with the terms therein.
- D. When quantities of the items cannot be determined prior to start of the work:
 - 1. Construction Manager will issue a Construction Change Directive directing Contractor to proceed with the change on the basis of unit prices, and will cite the applicable unit prices.
 - 2. At completion of the change, Construction Manager will determine the cost of such work based on the unit prices and quantities used. Construction Manager will then prepare the appropriate Change Order accordingly. Contractor shall submit on a daily basis, documentation to establish the number of units of each item and any claims for a change in Contract Time.
 - 3. The Owner, Architect, and Construction Manager will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
 - 4. Contractor shall sign and date the Change Order to indicate agreement with the terms therein.

If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order or Construction Change Directive that application of such unit prices to quantities of work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

1.10 TIME AND MATERIAL CHANGE ORDER AND CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Manager may issue a Construction Change Directive directing Contractor to proceed with the changes.
- B. At completion of the change, Contractor shall submit itemized accounting and supporting data as provided in this Section. Supporting data shall include daily work authorizations signed by the Construction Manager.
- C. Architect and Construction Manager will determine the allowable cost of such work, as provided in the General and Supplementary Conditions.

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- D. The Owner, Architect, and Construction Manager will sign and date the Change Order to establish the change in Contract Sum and in contract Time.
- E. Contractor shall sign and date the Change Order to indicate agreement with the terms therein.

1.11 CORRELATION WITH CONTRACTOR'S SUBMITTALS

- A. The Construction Manager will periodically, with monthly Applications for Payment, revise Schedule of Values and Request for Payment forms to record each change as separate items of Work, and to record the adjusted Contract Sum.
- B. The Construction Manager will periodically revise the Construction Schedule to reflect each change in Contract Time.
 - 1. Review sub-schedules to show changes for other items of Work affected by the changes.
- C. Upon completion of Work under a Change Order, enter pertinent changes in Record Documents.

1.12 CHANGE ORDER OVERHEAD AND PROFIT

- A. The maximum allowable overhead and profit included in any change order is as follows:
 - 1. For change orders up to \$4,000.00 the maximum overhead and profit will be 10% and 5% respectively.
 - 2. For change order over \$4,000 the maximum overhead and profit will be 5% and 5% respectively.
 - 3. Overhead and profit is calculated on actual cost of work.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01200 - PROJECT MINUTES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. This Section specified administrative and procedural requirements for project meetings including but not limited to:
 - 1. Preconstruction Conference
 - 2. Progress Meetings
 - 3. Pre-installation Meetings for Prime Contractors and Major Subcontractors
 - 4. Coordination Meetings
 - 5. Superintendent Meetings
 - 6. Schedule Review Meetings
 - 7. Closeout Requirement Review Meetings

1.02 RELATED REQUIREMENTS

- A. Section 00010, Bid Package Description
- B. Section 01310, Construction Schedules
- C. Section 01340, Shop Drawings, Project Data, and Samples
- D. Section 01720, Project Record Documents
- E. Section 01730, Operating and Maintenance Data
- F. Individual Specification Sections: Pre-installation Meetings

1.03 DESCRIPTION

- A. Work included: To enable orderly review during progress of the work, and to provide for systematic discussion of problems, the Construction Manager will conduct project meetings throughout the construction period.

1.04 QUALITY ASSURANCE

- A. Persons designated by the Contractor to attend and participate in the project meetings shall have all required authority to commit the Contractor to solutions agreed upon in the project meetings.

1.05 SUBMITTALS

- A. Minutes: The Construction Manager will compile minutes of each project meeting and will furnish one copy to attending Contractor. The Contractor may make and distribute such other copies as he wishes.

1.06 PRECONSTRUCTION CONFERENCE

- A. Construction Manager will schedule and administer the Preconstruction Conference for execution of the Owner-Contractor Agreement, exchange of preliminary submittals, clarification of owner, Construction Manager, Architect, and Contractor responsibilities in use of site, and for review of administrative procedures.
- B. Agenda: Discuss items of significance that could affect progress including such topics as:
 - 1. Tentative construction schedule.
 - 2. Critical work sequencing.
 - 3. Designation of responsible personnel.
 - 4. Procedures for processing field decisions and Change Orders.

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5. Procedures for processing Applications for Payment.
6. Distribution of Contract Documents.
7. Submittal of Shop Drawings, Products Data, and Samples.
8. Preparation of record documents.
9. Use of the premises.
10. Office, work, and storage areas.
11. Equipment deliveries and priorities.
12. Safety procedures.
13. First aid.
14. Security.
15. Housekeeping.
16. Working hours.
17. Procedures for testing.
18. Requirements of start-up of equipment.
19. Anticipated meeting requirements.
20. Contract closeout.

1.07 SUPERINTENDENT'S MEETING

- A. A Superintendent's Meeting shall be held every week. Attendance of all Prime Contractors on site and all Contractors requested by the Construction Manager is mandatory. Failure to attend such meetings shall result in a charge to the Contractor of \$150 for each missed meeting.

1.08 PROGRESS MEETING

- A. The Construction Manager will schedule and administer Project progress meetings at least once a month through the project. Times and dates shall be agreed upon by the Architect, owner, and Contractor(s).
- B. Project meetings shall be held at the job site in a location designated by the Construction Manager.
- C. The Construction Manager will make physical arrangements for meetings, prepare agenda with copies for participants, preside at meetings, record minutes, and distribute copies within five working days to the Architect, participants and those affected by decisions made at meetings.
- D. Attendance: Construction Manager, Prime Contractor's Project Manager, and Project Superintendent, Owner, and Architect all as appropriate to address agenda topics for each meeting. Major subcontractors and suppliers shall attend when requested by the Construction Manager. Failure to attend these meetings shall result in a charge to the Contractor of \$300 for each missed meeting.
- E. The first Progress Meeting shall be held within 14 days after start of Work.
- F. At each Progress Meeting, the contractors shall present to the Construction Manager and Architect any questions that have arisen as a result of carefully examining the Drawings and Specifications. The Construction Manager and Architect shall present any guides, advise or administrative procedures they wish to have followed for orderly and expeditious prosecution and administration of the Work. Agenda shall include at least the following:
 1. Review and correct or approve minutes of the previous Progress Meeting.
 2. Review other items of significance that could affect progress.
 3. Include topics for discussion as appropriate to the current status of the Project.
 4. Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities shall be completed within the Contract Time.
 5. Review the present and future needs of each entity present, including such items as:
 - a. Interface requirements
 - b. Time

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- c. Sequences
- d. Deliveries
- e. Off-site fabrication problems
- f. Access
- g. Site utilization
- h. Temporary facilities and services
- i. Hours of work
- j. Hazards and risks
- k. Housekeeping
- l. Quality and work standards
- m. Change Orders
- n. Documentation of information for payment requests

1.09 PRE-INSTALLATION MEETINGS

- A. When required in individual Specification Sections and as otherwise required by the Construction Manager, convene a Pre-installation Meeting prior to commencing work of the Section.
- B. Require attendance of entities directly affecting, or affected by, work of the Section.
- C. Review conditions of installation, preparation, and installation procedures, and coordination with related work.
- D. Review the progress of other construction activities and preparations for the particular activity under consideration at each Pre-installation Meeting, including requirements for:
 - 1. Contract Documents
 - 2. Options
 - 3. Related Change Orders
 - 4. Purchases
 - 5. Deliveries
 - 6. Shop Drawings, Product Data & Quality Control Samples
 - 7. Possible conflicts
 - 8. Compatibility problems
 - 9. Time schedules
 - 10. Weather limitations
 - 11. Manufacturer's recommendations
 - 12. Compatibility of materials
 - 13. Acceptability of substrates
 - 14. Temporary facilities
 - 15. Space and access limitations
 - 16. Governing regulations
 - 17. Safety
 - 18. Inspection and testing requirements
 - 19. Required performance results
 - 20. Recording requirements
 - 21. Protection

1.10 COORDINATION MEETINGS

- A. The Construction Manager will conduct Project Coordination Meetings on an "as-needed" basis at times convenient for all parties involved. Project Coordination Meetings are in addition to specific meetings held for other purposes, such as regular Progress Meetings and special Pre-installation Meetings.
- B. Request representation at each meeting by every party currently involved in coordination or planning for the construction activities involved. Failure to attend such meetings shall result in a charge to the Contractor of \$150 for each missed meeting.
- C. The Construction Manager will record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

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1.11 ADMINISTERING MEETINGS

- A. The Construction Manager will schedule, administer, record, and report all meetings.
- B. The Construction Manager will update all scheduling, as required. The Construction manager will revise the construction schedule where revisions to the schedule were made or recognized.
- C. Reporting: The Construction manager will distribute copies of minutes of the meeting to each party present and to other parties who should have been present.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - PRODUCTS (Not Applicable)

END OF SECTION

SECTION 01310 - CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.01 SUMMARY

- A. Preliminary Construction Schedule
- B. Procedures for preparation, development and updating of CPM CONSTRUCTION SCHEDULE.
- C. Qualifications of Person/Company preparing the CPM Schedule for the project.

1.02 RELATED REQUIREMENTS

- A. Section 00010 - Bid Package Descriptions
- B. General Conditions, Paragraph 4.10 "Construction Schedule"
- C. General Conditions, Paragraph 4.12 "Shop Drawings, Product Data and Samples"
- D. General Conditions, Article 9 "Payments and Completion"

PART 2 - GENERAL SCHEDULE INFORMATION AND DEADLINES

2.01 GENERAL

- A. **Preliminary Construction Schedule:** The Construction Manager (CM) has prepared the Preliminary Construction Schedule, and included the schedule in the bidding documents. The Preliminary Construction Schedule is an unbiased, practical evaluation of overall project phasing, and, with the exception of certain milestone dates and the completion date, is only intended to be a guide to bidders.
- B. **Initial Baseline Schedule:** After Notice to proceed, a draft of the overall Project CPM Schedule (Initial Baseline Schedule) shall be distributed to all Prime Contractors. This schedule is being provided as a starting point for the Prime Contractors to provide input to the CM for development of a project approach and an overall Project CPM Schedule that the Prime Contractors agree upon. The General Trades Contractor is the Lead Prime Contractor (LPC) on the project. The CPM Schedule shall be produced using Primavera Scheduling Software (version P6 or higher), henceforth referred to as "Primavera format," in accordance with the General Conditions and the requirements set forth herein. The entire Primavera format of computerized CPM schedule shall be provided to any Prime Contractor, upon request.
- C. **Time of Development of Schedule:** All Prime Contractors are to review activities, durations, and logic ties for accuracy and provide feedback to the CM within seven (7) calendar days of the Initial project Baseline Schedule being distributed. This feedback will be used by the CM to develop the second draft of the schedule. All Prime Contractors are to review activities, durations, and logic ties for accuracy and provide feedback to both the Lead Prime Contractor (LPC) and CM within seven (7) calendar days of the second draft of the Initial Project Baseline Schedule. This feedback will be used by the CM to develop the final draft of the Initial Project Baseline Schedule. Within seven (7) calendar days of distribution of the final draft of the Initial Project Baseline Schedule the CM, LPC, and all Prime Contractors will meet for joint review, correction, or adjustment of the proposed plan and schedule. The resulting schedule will then be formally accepted by all Prime Contractors.

PART 3 - CPM CONSTRUCTION SCHEDULING

3.01 GENERAL

- A. **Terms, Conditions and Guidelines:** The CPM Schedule network plan, including any appropriate milestone dates and the computer produced reports, shall be part of the Owner/Contractor agreement as stipulated herein:

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1. The General Trades Contractor is the Lead Prime Contractor for the project. After Notice to Proceed, the overall Project CPM Schedule (Initial Baseline Schedule) shall be developed and distributed to all Prime Contractors.
 2. All Prime Contractors shall provide all information required by the CM for development of a network plan and schedule for the project in accordance with the requirements of this section and the General Requirements.
 3. The purpose of the plan and schedule will be to assure adequate planning and execution of the work of the various Prime Contractors, and to assist the Construction Manager in monitoring the progress of the work and evaluating proposed changes to the contract and schedule.
- B. **Scheduling Protocols:** The project management tool commonly called the Critical Path method (CPM) shall be employed for the planning, scheduling, and reporting of all work to be performed under the contract. The precedence diagramming method shall be utilized in preparing the CPM Schedule network diagrams. Primavera Project Management shall be used by the CM to computerize the CPM Schedule network for the initial baseline project schedule.
- C. **Schedule Updates:** The Construction Manager, using Primavera Scheduling Software, shall perform all Schedule Updates with the input from the Prime Contractors, as specified.
- D. **Concurrent Work and Concurrent Contracts:** There are other contracts and work, which will run concurrently with this contract, and may run subsequently with this contract. The project network diagram and schedule shall reflect the major interfaces between the work of this contract and the concurrent and succeeding work of the other contracts.
- E. **Interface Points:** The Construction Manager may modify the network diagram to provide interface points for other contracts for this project.
- F. **Production Delays:** Activity time delays shall not automatically mean that an extension of the Contract Completion Date is warranted or due the Contractor. A Contract Modification or delay may not affect existing critical activities or cause non-critical activities to become critical. A Contract Modification or delay may result in only absorbing a part of the available total float that may exist within an activity chain on the Network, thereby not causing any effect on any interim milestone date or the Contract Completion Date.
- G. **Float Time:** Float time or slack time associated with one chain of activities is defined as the amount of time between earliest start date and latest start date or between earliest finish date and latest finish date for such activities, as calculated as part of the Construction Schedule. Float or slack time shown on the Construction Schedule is reserved for the exclusive use and benefit of the Owner. The Contractor specifically agrees that float time may be used by the Owner in conjunction with review of construction activities or to resolve project problems. The Contractor agrees that there shall be no basis for any modification of the Completion and Milestone Dates or an extension of the contract time, or a claim for additional compensation as a result of any project problem, change order, or delay which only results in the loss of available positive float on the Construction Schedule.

3.02 INITIAL CONSTRUCTION SCHEDULE SUBMISSION AND REVIEW

- A. **Terms, Conditions, and Guidelines:** To the extent necessary for the Construction Manager to reflect in a computerized CPM Schedule network diagram the Contractor's proposed plan for completion of their work, all Contractors shall be prepared to meet with and assist the Construction Manager, and furnish information subsequent to award of the contract.
- B. **Preliminary Schedule Review:** Within seven (7) calendar days following the Contract Award, the Lead Prime Contractor and the Construction Manager will meet with the Contractors (separately or collectively) and conduct a review of the Preliminary Schedule to assure their understanding of said Project Schedule requirements and contractual milestone dates.
- C. **Activity Information:** All prime Contractors are to review activities, durations, and logic ties for accuracy and provide feedback to the CM within seven (7) calendar days of the second draft of the Initial Project Baseline Schedule.

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- D. **Mandatory Schedule Review Meeting:** Within seven (7) calendar days of distribution of the final draft of the Initial Project Baseline Schedule the CM, Lead Prime Contractor, and a responsible representative of each Prime Contractor will then meet for joint review, correction, or adjustment of the proposed plan and schedule. These meetings are mandatory for all parties. Failure of a Prime Contractor to send a responsible representative to the meeting will result in a charge of \$1,500 against the Prime Contractor's contract for each day of meetings.
- E. **Revision Authority:** Any areas of such plans which, in the opinion of the CM, will conflict with timely completion of the project, will be subject to revision by the Construction Manager unless adequate justification for these plans, durations, and logic (as determined by the Construction Manager) is provided by the Contractor within ten (10) calendar days of the Construction Manager's notice to the Contractor of the Construction Manager's intent to revise the schedule.
- F. **Subcontractor Work:** During the schedule development, each Prime Contractor will be responsible for assuring that any/all subcontractor work, as well as his own work, is included and that the schedule shows a coordinated plan of work.
- G. **Activity Durations:** Each activity will have a maximum duration of twenty (20) working days each, unless otherwise directed by the Construction Manager, except for non-construction activities such as procurement of materials, delivery of equipment, and concrete curing.
- H. **Proposed Duration Changes:** Propose duration changes by a Prime Contractor will reflect their best estimate of time required to complete activity considering the project duration, applicable milestones and the scope and resources planned for activity. If the Construction Manager questions any of the Prime Contractor's proposed duration changes, said Prime Contractor shall, within ten (10) calendar days, provide estimates of his labor and intended crew and/or equipment sizes required for the activity which support the proposed duration to the satisfaction of the Construction Manager. Any durations which conflict with the timely completion of the project or flow of work will be subject to revision by the Construction Manager.
- I. **Work Scope:** Failure by any of the Prime Contractors or Construction Manager to include the element of work required for performance of the contract shall not excuse any of the Prime Contractors from completing all their work within the Contract Completion Date.
- J. **Weather Calendar:** Seasonal weather conditions shall be considered in the planning and scheduling of all work influenced by high or low ambient temperatures to ensure the completion of all contract work within the allotted contract time and milestone completion dates. The following schedule of monthly anticipated adverse weather related delays for the project location will constitute the base line for monthly weather time evaluations. The CPM Schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

For the purpose of scheduling, the adverse weather related days are noted in workdays vs. calendar days:

Jan 14 days; Feb 10 days; Mar 7 days; Apr 8 days; May 6 days; Jun 2 days; Jul 2 days; Aug 2 days; Sep 4 days; Oct 5 days; Nov 6 days; Dec 14 days.
- K. **Weather Protection Measures:** If the CPM Schedule shows the project completion date cannot be met by incorporating the anticipated adverse weather days, then the Contractors shall provide adequate weather protection measures to facilitate the work. These measures shall include, but are not limited to, temporary tenting, temporary enclosures, insulated blankets, temporary heat and humidity controls, etc. as necessary to protect the work and to ensure timely completion of work so as not to delay the activities of follow on Contractors. Contractors who fail to provide the adequate weather protection measures or fail to achieve the schedule and subsequently cause delay to other Contractors' work, shall be held accountable for any and all costs associated with the delay.
- L. **Crew Sizing:** For the initial project baseline schedule or subsequent updates, the Lead Prime Contractor or the CM may require Contractor input on crew sizing and quantities for respective activities along with projected productivity in order to agree upon proposed schedule durations for the respective activities. This information may also be used to assist the Team in ascertaining manpower requirements during various stages of the project. The Lead Prime Contractor or the CM may require a manpower loaded schedule for the initial schedule or subsequent updates. All trades are required to

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provide the necessary information within three (3) days of request by the CM at no additional cost to the Owner.

- M. **Longest Path Float:** There should be a minimal of one (1) to two (2) days of float per month on the longest path through the schedule. The float time may be used by the Owner in conjunction with review of construction activities or to resolve project problems.

3.03 REVIEW AND APPROVAL

- A. **Final Schedule Review:** Within seven (7) calendar days of distribution of the final draft of the Initial Project Baseline schedule the CM, Lead Prime Contractor, and a responsible representative of each Prime Contractor will then meet for joint review, correction, or adjustment of the proposed plan and schedule. These meetings are mandatory for all parties. Failure of a Prime Contractor to send a responsible representative to the meeting will result in a charge of \$1,500 against the Prime Contractor's contract for each day of meetings.

The revised CPM Schedule shall be reviewed by each Prime Contractor, and if found to be as previously agreed upon, shall be accepted within three (3) calendar days. Final review and acceptance by the Owner will take place after all Prime Contractors have approved the revised CPM Schedule prepared by the Lead Prime Contractor and CM.

- B. **Schedule Acceptance and Sign Off:** Upon establishment of an agreed upon schedule with the CM, each Contractor will sign the CPM Schedule Gantt Charts, which will then indicate the acceptance and approval of the Initial Baseline Project Schedule, sequence of activities and times for completion. **Acceptance of the approved project schedule by all Contractors and the Construction Manager will be a condition precedent to the making of any partial payments under the contract.**

3.04 SCHEDULING UPDATING AND REVISIONS

- A. **Schedule Updates:** The approved Project Schedule will be updated by the Construction Manager on a monthly basis for the purpose of recording and monitoring the progress of work. The Prime Contractors shall meet with the Construction Manager each month to review actual progress made to date, dates of activities started and completed, and the number of working days needed to complete each activity started but not completed. Each Prime Contractor must complete and submit a Contractor Update Sheet to the Construction Manager by the due date listed on these sheets. Failure to submit the completed Contractor Update Sheet on time will result in withholding progress payments. In addition, in order to ensure issuance of the CPM Schedule updates in a timely manner to all members of the Project Team, should a Contractor fail to provide update data by the date due, the CM will input update information on behalf of the Contractor based on field observations or daily report information, and the Contractor will be charged \$800 every time such effort is required by the CM. Payments will resume once the Prime Contractor has submitted the completed Contractor Update Sheet, and has implemented a process for timely submission of future updates.

- B. **Schedule Revisions:** The Construction Manager will revise the network to reflect progress to date plus any approved revisions to the network, and carry out a computer calculation of the schedule to determine status.
- Based on the result of the monthly progress update, when the schedule no longer represents the actual prosecution and progress of the work, a revision to the schedule logic sequence and the precedence diagram may be required by the Construction Manager or requested by the Prime Contractors.
 - A Prime Contractor may also request revisions to the logic sequence and precedence diagram in the event his planning for the project is revised. If a Prime Contractor desires to make changes in the Approved Project Schedule to reflect revisions in his method of operating and scheduling, he shall notify the Construction Manager in writing stating the reasons for the proposed revision.
 - All reasonable requests by the Prime Contractors for revisions will be implemented by the Construction Manager if not reasonably objected to by any of the other Prime Contractors of the CM.

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- d. Updating the schedule to reflect actual progress made up to the date of an update shall not be considered revisions to logic sequence and schedule; in case of disagreements concerning actual progress to date, the Construction Manager's determination shall govern.
- D. **Update Distribution, Reports, and Review:** Each updated Project Schedule will be distributed in Gantt Chart form by the Construction Manager. Detailed schedule reports will be made available to Contractors upon request. These reports may include:
 - 1. A list of all activities completed during the preceding month.
 - 2. List of progress made and planned on activities listed as started but not completed on the updated Project Schedule.
 - 3. A description of any revisions to the logic sequence or original durations for that update.
 - 4. The following computer produced reports can be generated upon request.
 - a. Critical Activity listing sorted by Total Float, Early Start
 - b. Project Schedule Report sorted by Early Start, Total Float
- E. **Update Acceptance:** If a Prime Contractor does not record any exceptions to the published Project Schedule update within three (3) calendar days of its receipt, he will be deemed to have accepted and approved it as issued.
- F. **Contract Date Primacy:** Receipt of a schedule update that shows the project finishing later than the contract milestone or substantial completion dates, shall not relieve the Contractors from completion of the project on time per the approved contract milestone and substantial completion dates.
- G. **Recovery Schedule Development:** Any updates to the Project Schedule that result in projections that the project will not finish in accordance with the project milestones or substantial completion dates may require a recovery plan by the Prime Contractors responsible for the delays. The Prime Contractor responsible for the delay, as determined by the Construction Manager's review of the schedule update, will be responsible for creation of the recovery schedule for approval by all Contractors. The applicable Prime Contractors shall work with the responsible Prime Contractor and the CM to produce a recovery plan that maintains the project milestone and substantial completion dates. This recovery schedule shall be developed within 14 calendar days after written request by the CM. Failure of the Prime Contractor to produce the recovery schedule within this timeframe will result in the recovery plan being developed by the CM at a cost of \$10,000. In addition, all costs from other Prime Contractors for overtime, shifts, weekend work to achieve the recovery plan shall be borne by the Contractors responsible for the delay.

3.05 RESPONSIBILITY FOR COMPLETION

- A. Each prime Contractor shall furnish sufficient forces, plant and equipment, and shall work such hours, including night shift and overtime operations, as necessary to ensure the prosecution of the work in accordance with the current monthly update of the Project Schedule. If, in the opinion of the Construction, a Prime Contractor falls behind in meeting the schedule as presented in the current monthly update, the Prime Contractor shall take such steps as may be necessary to improve his progress, and the Construction Manager may require him to increase the hours of work, the number of shifts, overtime operations, and/or the amount of construction plant and equipment without additional cost to the Owner. All additional expenses incurred by the Owner due to such work will be deducted from the amount due the Prime Contractor. The provisions of this section shall not be construed as prohibiting work on Saturdays, Sundays and holidays if the Prime Contractor so elects and if approved by the Construction Manager.
- B. Failure of a Prime Contractor to comply with the requirements of this subsection shall be a basis for determination by the Owner that the Prime Contractor is not prosecuting the work with such diligence as will ensure completion within the time stipulated. Upon such determination, the Owner may terminate the Prime Contractor's right to proceed with the work or any separable part thereof, in accordance with the provisions of the General Conditions, or may take such other actions as may be deemed appropriate. The Owner may supplement the Contractor's work to ensure the schedule is maintained.

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All costs, including Construction Manager's administrative costs, legal fees, and any other costs associated with such actions will be charged to the Contractor.

- C. It shall be the responsibility of all Prime Contractors to maintain their progress so as not to delay the progress of the project or the progress of other Prime Contractors. If a Prime Contractor delays the progress of the project or the progress of other Prime Contractors, it shall be the responsibility of Prime Contractor causing the delay to increase the number of shifts, days of work, and/or to the extent permitted by law, to institute or increase overtime operations all without additional cost to the Owner to regain the time lost and to maintain the overall schedule. Each Prime Contractor is required by virtue of this Contract to cooperate in every way possible with all other Prime Contractors in order to maintain the scheduled completion date. No additional compensation will be considered for such cooperation.
- D. The CPM Schedule will include specific submittals, as determined by the Construction Manager. Other submittals will be tracked via an automated tracking process such as Expedition, Excel, Axis, etc., as determined by the Construction Manager.

END OF SECTION

SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Procedures for preparation and submittal of **Shop Drawings, Product Data, and Samples**.
- B. Contractor **review and approval**, and distribution of copies.

1.02 RELATED REQUIREMENTS

- A. General Conditions of the Contract: Definitions, and basic responsibilities of entities.
- B. Section 01310, Construction Schedules: Schedules for submittals.
- C. Section 01600, Material and Equipment: Product options.
- D. Section 01720, Project Record Documents.
- E. Section 01730, Operation and Maintenance Data.

1.03 SHOP DRAWINGS

- A. Present in a clear and thorough manner. Title each drawing with Project name and number.
 - 1. Elements of drawings shall be identified by reference to sheet number and detail, schedule or room numbers shown on Contract Drawings.
- B. Identify field dimensions; show relation to adjacent or critical feature of work or products.
- C. Minimum sheet size: Manufacturer's standard; adequate to clearly illustrate.
- D. Each contractor submitting shop drawings is required to submit a minimum of one (1) reproducible shop drawing.

1.04 PRODUCT DATA

- A. **Submit only pages which are pertinent.**
 - 1. Clearly mark each copy of printed data to identify applicable products, models, options, and other data, referenced to Specification Section and Article Number.
 - 2. Show reference standards, performance characteristics and capacities.
 - 3. Show dimensions and clearances required.
 - 4. Show wiring or piping diagrams and controls.
 - 5. Show component parts and finishes.
- B. Manufacturer's standard schematic drawings and diagrams:
 - 1. Modify drawings and diagrams to delete information which is not applicable to the Work.
 - 2. Supplement standard information to provide information specifically applicable to the Work.
 - 3. Delete information not applicable.
 - 4. Provide manufacturer's preparation, assembly, and installation instructions when required by the Specification Section.

1.05 SAMPLES

- A. **Office Samples:** Limit to items requiring color, pattern, and similar selections and shall be sufficient size and quantity to clearly illustrate:
 - 1. Full range of color, texture, and pattern for Architect/Engineer selection.
 - 2. Submit samples for selection of finishes within **45 days after date of Contract**.

B. Field Samples and Mock-Ups:

1. Submit samples to illustrate functional characteristics of the product, including integrally related parts and attachment devices.
2. Contractor shall erect, at the Project site, at a location acceptable to the Construction Manager.
3. Size of Area: That specified in the respective specification section.
4. Fabricate each sample and mockup complete and finished.
5. Include identification on each **Sample**, giving full information.
6. Removes samples when acceptable to the Architect/Engineer/Construction Manager.

C. Label each sample with identification required for transmittal letter.

D. Approved samples which may be used in the Work are indicated in the respective **Specification Section**.

1.06 MANUFACTURER'S CERTIFICATES

A. Submit Certificates, in duplicate, in accordance with requirements of ea **Specification Section**.

1.07 CONTRACTOR RESPONSIBILITIES

A. Review and approve Shop Drawings, Product Data, and Samples PRIOR to submission to Construction Manager.

B. Determine and verify:

1. Field measurements.
2. Field construction criteria.
3. Manufacturer's catalog numbers and similar data.
4. Conformance of submittal with requirements of Contract Documents.

C. Coordinate each submittal with requirements of the **Work** and of the Contract Documents.

D. Sign or initial each sheet of shop drawings and product data, and each sample label to certify approval and compliance with requirements of Contract Documents.

E. Notify the Construction Manager in writing, at time of submission, of ANY AND ALL DEVIATIONS in the submittals from requirements of the Contract Documents.

F. **DO NOT FABRICATE PRODUCTS or begin work** which requires submittals until return of submittals with Architect/Engineer review stamp, without any exceptions.

1.08 SUBMITTAL REQUIREMENTS

A. Transmit submittals promptly in accordance with **approved Progress Schedule**, and in such sequence as to cause **NO DELAY** in the work or in the work of any other Contractor.

B. Contractor shall prepare for his use on this project a shop drawing stamp as required in Division 1 and shall contain the following:

Contractor approves and submits these shop drawings and samples and thereby represents that he has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data and that he has checked and coordinated each shop drawing and sample with the requirements of the work and of the Contract Documents and with work of other Contractors.

Date _____

Contractor _____

Specification Section _____

Contract No. _____ Submittal No. _____

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The above stamp shall be affixed by the Contractor to all shop drawings and data submitted by the Contractor thus indicating that the Contractor has thoroughly reviewed same and approves of their content. Drawings not stamped in this manner will be returned to Contractor as "not reviewed" for resubmission and no action shall be taken.

C. Number of submittals required:

1. Shop Drawings: Submit the number of opaque reproductions which the Contractor requires, plus seven (7) copies which will be retained by the Architect/Engineer and Construction Manager.
2. Product Data: Submit the number of copies which the Contractor requires, plus seven (7) copies which will be retained by the Architect/Engineer and Construction Manager.
3. Samples: Submit the number stated in each specification section.

D. Submittals shall contain:

1. The date of submission and dates of any previous submissions.
2. The Project title and number
3. Contract identification.
4. The name of:
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
5. Identification of the project, with the specification section number
6. Field dimensions, clearly identified as such
7. Relation to adjacent or critical features of the Work or materials
8. Applicable standards, such as ASTM
9. Identification of deviations from Contract Documents
10. Identification of revisions on re-submittals
11. An 8" x 3" blank space for Contractor and Architect/Engineer stamps

1.09 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in the submittals required by the Architect/Engineer or Construction Manager and resubmit under procedures specified for initial submittals.
- B. Indicate any changes which have been made other than those requested by the Architect/Engineer or Construction Manager.

1.10 ARCHITECT/ENGINEER AND CONSTRUCTION MANAGER REVIEW

- A. Architect's/Engineer's and Construction Manager's review of submittals is for **GENERAL CONFORMANCE ONLY AND IS NOT IMPLIED OR EXPRESSED AS ACCEPTANCE OR APPROVAL** of the submission.

1.11 DISTRIBUTION

- A. Distribute reproductions of Shop Drawings and copies of Product Data which carry the Architect/Engineer stamp of review to:
 1. Job site file
 2. Record Documents file
 3. Other affected contractors
 4. Subcontractors
 5. Supplier or Fabricator
- B. Distribute samples which **carry the Architect/Engineer stamp of review** as directed by the Architect/Engineer.
- C. Contractor will be required to submit a maximum of ten (10) copies of approved shop drawings to the Construction Manager for distribution to other Contractors for coordination.

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PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01370 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Procedures for preparation and submittal of Schedule of Values.

1.02 RELATED REQUIREMENTS

- A. General Conditions of the Contract: Schedule of Values
- B. Section 00010, Bid Package Descriptions
- C. Section 01152, Applications for Payment For All Contracts

1.03 FORMAT

- A. Type Schedule on AIA Document G703 - Continuation Sheet for Application and Certificate for payment or on 8-1/2" x 11" white bond paper.
- B. Contractor's standard forms or media-driven printout will be considered upon request.
- C. Follow Table of Contents of Project Manual for listing component parts. Identify each line item by number and title of major Specification Section.

1.04 CONTENT

- A. List each "Major Item of Work" and each "Subcontracted Item of Work" as a separate line item to serve as a basis for computing values for Progress Payments.
- B. For each major line item, list sub-values of products or operations under the item.
- C. For the various portions of the Work:
 - 1. Each item shall include a directly proportional amount of the Contractor's overhead and profit.
 - 2. For items on which progress payments will be requested for stored materials, break down the value into:
 - a. The cost of the materials, delivered and unloaded, with taxes paid.
 - b. The total installed value.
- D. Submit a "**Sub-Schedule**" of unit costs and quantities for each separate stage of Work with unit values for the materials broken down into:
 - 1. Cost of the material, delivered and unloaded at the site, with taxes paid.
 - 2. Installation costs, including Contractor's overhead and profit.
- E. The installed unit volume multiplied by the quantity listed shall equal the cost of that item in the Schedule of Values.
- F. The sum of all values listed in the schedule shall equal the total Contract Sum.
- G. Include separate line items for general and final cleanup; general labor hours from bid package descriptions; mobilization and demobilization; temporary heating; surveying and layout; and closeout.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01510 - TEMPORARY FACILITIES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Site Access
- B. Provisions for Water Intrusion Protection to prevent damage to moisture sensitive materials

1.02 RELATED REQUIREMENTS

- A. Section 00010 - BID PACKAGE DESCRIPTIONS
- B. Section 01520 – CONSTRUCTION AIDS / TEMPORARY ENCLOSURES
- C. Section 01530 – BARRIERS

PART 2 - PRODUCTS

2.01 MATERIALS, GENERAL

- A. Materials may be new or used but must be adequate in capacity for the required usage. MUST NOT create unsafe conditions and MUST NOT violate requirements of applicable codes and standards.

2.02 SITE ACCESS

- A. Contractors' access into the site shall be limited, insofar as practical, to entrance road or roads as designated by the Construction Manager. General Trades Contractor or Sitework Contractor (if separate prime) shall maintain necessary warning devices or barriers at each entrance. All construction traffic, including employee traffic, trucking, and delivery of materials and equipment, shall be controlled by the Construction manager and shall enter the site only by routes prescribed by the Construction Manager. Access to the site by other routes will be prohibited.

2.03 WATER INTRUSION PROTECTION AND REMOVAL:

- A. The Contractor shall ensure that its operations are performed in a way that minimizes the potential for water intrusion into the facility which may damage stored materials and finishes in the building. The Contractor shall remedy any conditions which are under their control that may have led to water intrusion or leaks in the facility within 24 hours of discovery or notification.
- B. Prior to the start of construction, the Contractor shall inspect the facility. In the event that pre-existing moisture problems, leaks, mold, etc. are discovered, the Contractor shall notify the Owner, the Design Professional and/or the Construction Manager.
- C. Contractor's are responsible for reporting any accumulation of water, wet materials, or mold contaminated materials to the Owner, Design Professional and/or the Construction Manager so that it can be properly addressed by the responsible party. Within 24 hours of notification, the Contractor shall take action to correct the problem, remove wet materials from the facility, and completely clean and dry the impacted area.
- D. The following steps shall be implemented to minimize the potential for water intrusion and damage within the facility:
 - Deliveries shall be sequenced to avoid the storage of large amounts of moisture sensitive material at the site for an extended time period.
 - Roof and building envelopes shall be substantially completed before any porous materials are stored in the building.
 - As roof is being installed, roof drains shall be permanently connected to drainage systems or shall be temporarily connected to divert water out of the building.

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- Building materials shall be inspected upon delivery and any mold impacted materials are to be rejected and shall not be allowed on site.
 - Moisture sensitive materials shall be protected from weather elements during delivery and off-loading activities until properly stored.
 - Stored building materials shall be elevated and covered to protect them from weather.
 - Interior partitions and insulation materials shall be inspected for moisture and mold prior to being permanently enclosed.
 - Building penetrations, temporary enclosures, doorways, etc. shall be sealed at the end of the work day to avoid moisture infiltration.
 - Any wet porous building materials that can be dried per the manufacturer's recommendations shall be dried and inspected for mold growth prior to its installation and report submitted for Owner's records.
 - Sub-floors shall be cleaned and properly dried prior to carpet installation.
 - The ends of existing and new ductwork shall be sealed with plastic and tape to prevent dust and debris and moisture from entering.
 - Regular inspections shall be performed and documented during construction to identify leaks, ponding water, moisture from work operations (masonry, tile, wet grinding, etc.), and other sources of water entry in the facility.
 - Condensate collection systems and plumbing drainage systems shall be checked to ensure that they are working properly to avoid problems.
 - Standing water on floors caused by leaks and spills must be cleaned up immediately and in no case shall standing water be left in the structure over night once the building is considered weather tight.
- E. Materials that come into contact with water must be dried prior to being installed or covered with additional material. There are several methods used to assist in drying wet materials. Large blowers with directional controls or heaters assist in the drying process. Forced ventilation should be vented directly outside. Avoid combustion type heaters for drying purposes as oxygen levels are decreased, the exhaust requires outside ventilation and moisture is generated as a by-product of incomplete combustion. Ensure impacted area is dry before proceeding with repairs.
- F. Damaged materials that are not salvageable must be disposed of. These materials shall be double-bagged using 6-mil polyethylene bags and discarded as construction waste. It is important to package mold-contaminated materials in sealed bags before removal from the contaminated area to minimize the dispersion of mold spores. Large items that have heavy mold growth should be covered with polyethylene sheeting and sealed with duct tape before they are removed from the containment area.
- G. If mold is encountered onsite, the design professional and the Owner shall be notified in writing of the event. The effected area shall be photographed and or video taped before the start of, during, and after the restoration work of the affected area.

PART 3 – EXECUTION

3.01 GENERAL

- A. Maintain temporary facilities to assure continuous service.
- B. Modify and extend systems as work progress requires.

302. REMOVAL

- A. Completely remove temporary materials and equipment when their use is no longer required,
- B. Clean and repair damage caused by temporary installations or use of temporary facilities.
- C. Restore permanent facilities used for temporary services to specified condition.

END OF SECTION

SECTION 01520 - CONSTRUCTION AIDS / TEMPORARY ENCLOSURES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Furnish, install, and maintain required Construction Aids.
- B. Furnish, install, and maintain required Temporary Enclosures.
- C. Remove on completion of Work.

1.02 RELATED REQUIREMENTS

- A. Section 00010, Bid Package Descriptions

PART 2 - PRODUCTS

2.01 MATERIALS - GENERAL

- A. Materials MAY BE new or used, suitable for the intended purpose, but MUST NOT VIOLATE requirements of applicable codes and standards.

2.02 CONSTRUCTION AIDS

- A. Provide construction aids and equipment required by personnel and to facilitate execution of the Work; scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes and other such facilities and equipment.
 - 1. Refer to respective section for particular requirements for each trade.
- B. Maintain facilities and equipment in first-class condition.

2.03 TEMPORARY ENCLOSURES

- A. General Trades Contractor to provide temporary weather-tight enclosure of exterior walls for successive areas of building as work progresses, as necessary to provide acceptable working conditions, provide weather protection for materials, allow for effective temporary heating, and to prevent entry of unauthorized persons.
 - 1. Provide temporary exterior doors with self-closing hardware and paddocks.
 - 2. Other enclosures shall be removable as necessary for work and for handling of materials.
 - 3. The Construction Manager and the Architect will make the determination of whether the temporary enclosure measures in any major area of the building is acceptable for effective temporary heating.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Consult with Architect and Construction Manager, review site conditions and factors which affect construction procedures and construction aids, including adjacent properties and public facilities which may be affected by execution of the Work.
- B. All other trades shall stop the infiltration of water and air through or in sections of the building that are under temporary or permanent enclosure at unfinished work areas.

3.02 GENERAL

- A. Comply with applicable requirements specified in sections of Division 2 through 16.
- B. Relocate construction aids as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of Owner and other contractors employed at the site.

3.03 REMOVAL

- A. Completely remove temporary materials, equipment and services:
 - 1. When construction needs can be met by use of permanent construction.
 - 2. At completion of Project or as directed by Construction Manager.
- B. Clean, restore and repair damage caused by installation or by use of temporary installations as required.
- C. Restore existing facilities used for temporary purposes to specified, or to original condition.

END OF SECTION

SECTION 01530 - BARRIERS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Suitable barriers to prevent public entry, and to protect the Work and existing facilities.
- B. Temporary enclosures and dust barriers to protect the Work or existing facilities.
- C. Suitable barriers to prevent damage to existing trees and plants, or other items scheduled to remain, from construction operations.
- D. Remove when no longer needed, or at completion of Work.

1.02 RELATED REQUIREMENTS

- A. Section 00010, Bid Package Descriptions
- B. Section 01520, Construction Aids

1.03 REQUIREMENTS OF REGULATORY AGENCIES

- A. Comply with **Federal, State, and Local codes and regulations.**

PART 2 - PRODUCTS

2.01 MATERIALS, GENERAL

- A. Materials MAY BE new or used, suitable for the intended purpose, but MUST NOT violate requirements of applicable codes and standards.

2.02 BARRIERS

- A. Materials are at Contractor's option, as appropriate to serve the required purpose.

PART 3 - EXECUTION

3.01 GENERAL

- A. Install facilities of a neat and reasonable uniform appearance, structurally adequate for the required purposes.
- B. Maintain barriers during entire construction period.
- C. Relocate barriers as required by progress of construction.

3.02 REMOVAL

- A. Completely remove barricades, including foundations, when construction has progressed to the point that they are no longer needed, and when approved by Architect/Engineer.
- B. Clean and repair damage caused by installation, fill and grade areas of the site to elevations and slopes as may be required, and clean the area.

END OF SECTION

SECTION 01580 - PROJECT IDENTIFICATION AND SIGNS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. General Trades Contractor shall furnish, install, and maintain one project identification sign at each of the project sites.
- B. Other Contractor(s) or subcontractor(s) shall provide temporary on-site informational signs:
 - 1. As may be required by local codes, laws, and regulatory agencies
 - 2. To identify key elements of the construction facilities
 - 3. To direct traffic
- C. Remove signs on completion of construction or as directed by Construction Manager.
- D. Allow no other signs to be displayed.

1.02 RELATED REQUIREMENTS

- A. Section 00010, Bid Package Descriptions

1.03 PROJECT IDENTIFICATION SIGN

- A. One painted sign of size, design, lettering, and construction as shown attached to this section, Unless shown otherwise; the sign shall be a minimum of 3' x 4'. Other wording shall be per the Owner's direction (see attachment).
 - 1. Locate as shown on Contract Drawings or as directed by Architect/Construction Manager.

1.04 INFORMATIONAL SIGNS

- A. Painted signs with painted lettering, or standard products.
 - 1. **Size of Signs and Lettering:** As required by regulatory agencies, or as appropriate to usage.
 - 2. **Colors:** As required by regulatory agencies, otherwise of uniform colors throughout Project.
- B. Erect at appropriate locations to provide required information or as directed by Construction Manager.

1.05 QUALITY ASSURANCE

- A. **Sign Painter:** Professional experience in type of work required
- B. **Paint or Vinyl Finishes:** Adequate to resist weathering and fading for scheduled construction period.

2.01 SIGN MATERIALS

- A. **Structure and Framing:** New metal, in sound condition structurally adequate to work and suitable for specified finish.
- B. **Sign Surfaces:** In accordance with details.
 - 1. **Thickness:** In accordance with details.
- C. **Rough Hardware:** Galvanized
- D. **Paint or Vinyl:** Exterior quality

PART 3 - EXECUTION

3.01 PROJECT IDENTIFICATION SIGN

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- A. Paint exposed surfaces of supports, framing, and surface material; one coat of prime and one coat of exterior paint.
- B. Paint graphics in styles, sizes, and colors indicated.

3.02 INFORMATIONAL SIGNS

- A. Paint exposed surfaces: one coat of primer and one coat of exterior paint.
- B. Paint graphics in styles, sizes and color selected.
- C. Install at a height for optimum visibility, on ground-mounted poles or attached to temporary structural surfaces.

3.03 MAINTENANCE

- A. Maintain signs and supports in a neat, clean condition; repair damages to structure, framing or sign.
- B. Relocate information signs as required by progress of the work.

3.04 REMOVAL

- A. Remove signs, framing, supports, and foundations at completion of the project.

END OF SECTION

QTY (1) 48"H x 96"W S/S 3/4" MATERIAL, WHITE PAINTED FACE
BLACK VINYL GRAPHICS (RED FOR BURKEY CONST)
DIGITAL PRINTS OF CITY COAT OF ARMS (15" x 15"), AND PERROTTO LOGO (4" x 18")

READING PUBLIC LIBRARY IMPROVEMENTS DEPARTMENT OF PUBLIC WORKS FOR THE CITY OF READING PENNSYLVANIA

Financial assistance for the 2013 renovations and improvements to this branch of the Reading Public Library was provided by the Commonwealth of Pennsylvania, Honorable Tom Corbett, Governor, the City of Reading Community Development Block Grant, and the Reading Public Library.

Prime Contractor



426 Warren Street
Reading, PA 19601
610-374-9421
perrottocompany.com

Construction Manager



506 Morgantown Road
Reading, PA 19611
610-375-8591
burkeyconstruction.com

Architect of Record



420 DeKalb Street
Norristown, PA 19401
610-272-4809
sdarc.com

96 in

SIGN * A * RAMA DESIGN PROOF

PLEASE SIGN TO CONTINUE PROGRESS ON YOUR ORDER

APPROVED	<input type="checkbox"/>
REVISIONS	<input type="checkbox"/>

PHONE: 610-375-7446 FAX: 610-375-6080

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ONLY.

SECTION 01600 - MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Products
- B. Workmanship
- C. Manufacturer's instructions
- D. Transportation and handling
- E. Storage and protection
- F. Contractor options
- G. Material source and Subcontractor approval
- H. Substitutions

1.02 RELATED REQUIREMENTS

- A. Section 00010, Bid Package Description
- B.. Section 01340, Shop Drawings, Project Data and Samples: Submittal of manufacturer's drawings, descriptive literature, samples, and certificates.
- C. Section 01710, Cleaning: Manufacturer's recommendation and procedures for cleaning.
- D. Section 01730, Operations and Maintenance Data; Demonstration and submission of instructions.
- E. Section 01740, Warranties and Bonds: Form and time of submission.

1.03 PRODUCTS

- A. Products include material, equipment and systems
- B. Comply with Specifications and referenced standards as minimum requirements.
- C. Manufactured and fabricated components required to be supplied in quantity within a Specification Section shall be of the same manufacturer, and shall be interchangeable.
- D. When work of Project involves alteration and additional work, DO NOT use materials and equipment removed from existing structure, except as specifically allowed by notation or indication by Contract Documents.

1.04 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform work by persons qualified to produce workmanship of specified quality.
- C. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.05 MANUFACTURER'S INSTRUCTIONS

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- A. When work is specified to comply with manufacturer's printed instructions, obtain and distribute copies to persons involved, and maintain one set at job site in field office.
- B. Perform work in accordance with manufacturer's instructions and specified requirements.
- C. Should a conflict exist between Specifications and instructions, consult with Architect/Engineer and Construction Manager.

1.06 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of Products in accordance with construction schedules, coordinate to avoid delay of progress, conflict with work and conditions at the site.
- B. Transport Products by methods to avoid Product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
- C. Provide equipment and personnel to handle Product by methods to prevent soiling or damage.
- D. Promptly inspect shipments to assure that Products comply with requirements, quantities are correct, and Products are undamaged.

1.07 STORAGE AND PROTECTION

- A. Store Products in accordance with manufacturer's instruction, with seals and labels intact and legible.
- B. Store sensitive Products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
- C. For exterior storage of fabricated Products, place on sloped supports above ground. Cover Products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- D. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- E. Arrange storage to provide access for inspection. Periodically inspect to assure Products are undamaged, and are maintained under required conditions.
- F. After installation, provide coverings to protect Products from damage from traffic and construction operations, remove when no longer needed.

1.08 CONTRACTORS' OPTIONS

- A. **Products Specified By Reference or By Description Only:** ANY PRODUCT meeting those standards.
- B. **Product Specified by Naming Several Manufacturers:** Products of named manufacturers meeting specifications; or SUBMIT A REQUEST FOR SUBSTITUTION for any manufacturer not specifically named.
- C. **Products Specified By Naming One or More Manufacturers with "or equal":** Products of named manufacturers meeting specifications; or SUBMIT A REQUEST FOR SUBSTITUTION for any manufacturer not specifically named.
- D. **Products Specified By Naming Only One Manufacturer:** Products of named manufacturers meeting specifications; or SUBMIT A REQUEST FOR SUBSTITUTION for any manufacturer not specifically named.

1.09 MATERIAL SOURCE AND SUBCONTRACTOR APPROVAL

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- A. Submit, on forms provided by Architect/Engineer, the names and addresses of all subcontractors, testing laboratories, and manufacturing sources of materials to be incorporated into or used on this project.
- B. Tabulate products by Specification section number, title, and Article number.
- C. These forms shall be properly completed and must be submitted to the Construction Manager within **thirty (30) calendar days after date of Contract**.
- D. The Architect/Construction manager upon receipt of properly completed copies of the forms, will promptly review for approval or disapproval and subsequent distribution.

1.10 SUBSTITUTIONS

- A. The Architect/Engineer will only consider requests from Contractor for substitutions when submitted at least ten (10) days prior to the bid date. Subsequently, substitutions will be considered only when a Product becomes unavailable due to no fault of Contractor. Submit substitutions to Construction Manager for processing.
- B. Document each request with complete data, drawings, and samples as appropriate, substantiating compliance of proposed substitution with Contract Documents including:
 - 1. Comparison of the qualities of the proposed substitution with the specified.
 - 2. Changes required in other elements of the work because of the substitution.
 - 3. Effect on the construction schedule.
 - 4. Cost data comparing the proposed substitution with the Product specified.
 - 5. Any required license fees or royalties.
 - 6. Availability of maintenance service, and source of replacement materials.
- C. Request constitutes a representation that Contractor:
 - 1. Has investigated proposed Product and determined that it meets or exceeds, in all respects, specified Product.
 - 2. Will provide the same warranty for substitution as for specified Product.
 - 3. Will coordinate installation and make other changes which may be required for Work to be complete in all respects.
 - 4. Waives claims for additional costs which may subsequently become apparent.
- D. SUBSTITUTIONS WILL NOT BE CONSIDERED when they are indicated or implied on Shop Drawing or Product Data submittals without separate written request, or when acceptance will require substantial revision of Contract Documents.
- E. Architect will review to determine acceptability of proposed substitution, and will notify Contractor of acceptance or rejection in writing within a reasonable time.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01701 – CONTRACT CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Administrative provisions for Substantial Completion and for Final Closeout and Acceptance.
- B. Closeout Requirements

1.02 RELATED REQUIREMENTS

- A. General Conditions
- B. Section 00010 – Bid Package Descriptions
- C. Section 01710 – Cleaning
- D. Section 01720 – Project Record Documents
- E. Section 01730 – Operation and Maintenance Data
- F. Section 01740 – Warranties and Bonds

1.03 SUBSTANTIAL COMPLETION

- A. When Contractor considers his Work is substantially complete, he shall submit to Construction Manager:
 - 1. a written notice that the Work, or designated portion thereof, is substantially complete;
 - 2. a preliminary punchlist of items to be completed or corrected; this list should be generated by each Contractor and submitted to the Construction Manager's field superintendent or it may be developed by the Contractor during a joint walkthrough of the Work with the Construction Manager's field superintendent.
 - 3. If the Contractor fails to issue written notice that the Work, or designated portion thereof, is substantially completed or fails to issue a Preliminary Punchlist within two (2) calendar days prior to the scheduled date for Substantial Completion, then the Construction Manager may prepare a Preliminary Punchlist on behalf of the Contractor at a cost of \$2,500 to each Contractor who has failed to submit their respective punchlists or written notice that Work is substantially complete.
- B. Should Architect/Engineer/Owner or Construction Manager determine that the Work is not substantially complete, the Construction Manager will promptly notify Contractor, in writing, by listing observed deficiencies.
- C. Contractor shall remedy deficiencies and send a second written notice of Substantial completion to the Construction Manager along with an updated punchlist of the Work.
- D. When Architect/Engineer/Owner and Construction Manager find Work is substantially complete, a Certificate of Substantial Completion shall be prepared in accordance with provisions of General conditions.
- E. When the Architect/Engineer/Owner and Construction Manager find the Work, or designated portion thereof, is substantially completed, they will utilize the Preliminary Punchlist as a tool to generate the substantial Completion Punchlist.
- F. The Construction Manager may assign value to the incomplete Punchlist Work and 150% of this value will be withheld from Contractor's payment applications until Work is completed. The minimum value of \$400 shall be applied to any single line item on the punchlist. In the absence of a line item value for

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each deficiency, the Architect/Engineer/Owner and Construction Manager may assign an overall value or percentage to be withheld from the Contractors payment application until the Work is completed.

- G. The Contractors shall complete their Punchlist Work in the timeframes noted in the Contract documents but no later than 60 calendar days from the date of the Substantial Completion Punchlist. should the Contractor fail to complete the Punchlist Work in the required timeframes, the Contractor shall be responsible for all costs incurred by the Owner for the extended services of its consultants. In addition, the Owner may implement other remedies available per the Contract Documents.

1.04 FINAL INSPECTION

- A. When the Contractor considers the Work is complete, he shall submit to the Construction Manager written certification that:
1. Contract Documents have been reviewed;
 2. Work has been inspected for compliance with Contract Documents;
 3. Work has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion or the Project punchlists have been corrected;
 4. equipment and systems have been tested, adjusted, and balanced and are fully operational;
 5. operation of systems has been demonstrated to Owner's personnel;
 6. Work is complete and ready for final inspection;
 7. spare parts and attic stock are turned over to Owner.
- Should the Contractor fail to provide written certification outlining the above within two (2) calendar days of the scheduled date for Final completion per the Contract Documents, or within no more than 60 calendar days of issuance of the Substantial Completion Punchlist, the Construction Manager, Architect and Owner may opt to perform Work to verify the items noted above are completed and the Contractor will be responsible for any and all costs associated with such verification.
- B. Should Architect/Engineer/Owner and Construction Manager's inspection find Work incomplete, the Construction Manager will promptly notify Contractor, in writing, listing observed deficiencies. The costs for the reinspection effort and subsequent efforts to verify the Contractor's Work and deficiencies are corrected shall be borne by the Contractor.
- C. Contractor shall remedy deficiencies and send a second written Certification of Final Completion to Construction Manager.
- D. When Architect/Engineer and Construction Manager find Work and punchlist items complete, and all closeout documentation submitted and approved, they will consider the Project as being Final complete. The closeout documentation includes the items noted in Paragraph 1.07.

1.05 REINSPECTION FEES

- A. Should status of completion of Work require reinspection by the Architect/Engineer/Construction Manager due to failure of the Work to comply with Contractor's claims on initial inspection, the Owner will deduct the amount of Architect/Engineer/Construction Manager's compensation for reinspection services from the final payment to Contractor.

1.06 ADDITIONAL SERVICES

- A. the administration of the Contract due to failure of the Contractor to achieve the scheduling commitments outlined in the Contract Documents:
1. Owner will compensate the Architect/Engineer and Construction Manager for such additional Services in accordance with their respective Contract Agreements;
 2. Owner will deduct the amount of such compensation from the final payment to the Contractor Responsible for such delay.

1.07 CLOSEOUT SUBMITTALS

- A. Submit the following documents to Construction Manager:

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1. Certificate of Occupancy;
 2. Certificates of Inspection required for equipment, mechanical, and electrical systems of each Respective Section throughout the Project Manual.
- B. Project Record Documents: In accordance with Section 01720.
- C. Operating and Maintenance Data, Instructions to Owner's Personnel: In accordance with requirements of Section 01730. Submit copies of signed Verification Statements for Owner Training or written documentation verifying Owner's staff in attendance at the required training sessions, etc.
- D. Warranties and Bonds: In accordance with Section 01740.
- E. Keys and Keying Schedule: In accordance with the Specifications.
- F. Spare Parts and Maintenance Materials: In accordance with each respective Specification Section.
- G. Evidence of Payment and Release of Liens: In accordance with General Conditions.
- H. Consent of Surety to Final Payment.
- I. Certificate of Insurance for Products and Completed Operations: In accordance with amended General and Supplementary Conditions.
- J. All change Orders finalized.
- K. Copy of Contractor's letter to their insurance carrier advising carrier to maintain coverage throughout the warranty period.
- L. Contractor letter verifying completion of all Work and Punchlist Items.

1.08 STATEMENT OF ADJUSTMENT OF ACCOUNTS

- A. Submit to Construction Manager a final statement reflecting adjustments to Contract Sum indicating:
1. Original Contract Sum
 2. Previous Change Orders
 3. Changes Under Allowances
 4. Changes Under Unit Prices
 5. Deductions for Uncorrected Work
 6. Penalties and Bonuses
 7. Deductions for Liquidated Damages
 8. Deductions for Reinspection Payments
 9. Other Adjustments or Charges
 10. Total Contract Sum as Adjusted
 11. Previous Payments
 12. Sum Remaining Due
- B. Construction Manager, with the approval of the Owner, will issue a Final Change Order, reflecting approved adjustments to the Contract Sum not previously made by change orders.

1.09 FINAL APPLICATION FOR PAYMENT

- A. Submit Application for Final Payment in accordance with provisions of the General Conditions of the contract.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION

3.01 CLOSEOUT GOAL AND DEFINITION

- A. Have Projects closed out within sixty (60) calendar days of Substantial Completion of the Project or major portion thereof. Closed out means that all warranties, Operation and Maintenance Manuals, record Documents, Balancing Reports, Commission Reports, Owner Instructions/Reports, Spare part/Attic Stock have been submitted, and Change Order paperwork has been completed. All Contract work, Change Order Work, and Punchlist Work must be completed and the Final Payment Application must be submitted for Payment.

3.02 PROJECT CLOSEOUT GENERAL REQUIREMENTS

- A. Three (3) months prior to the Project's Substantial Completion Date, or when the Project is approximately 75% complete based on time, the Contractor should request a meeting with the construction Manager to review and confirm the Contract closeout requirements. Minutes of the meeting should be generated by the Construction Manager. The Construction Manager may also issue letters to each Contractor advising them that Project Closeout and Final Completion must be achieved within no more than sixty (60) calendar days from the Project's Substantial Completion date (earlier if required elsewhere in the Contract Documents).
1. A Closeout Log listing all warranties, spare parts, Owner instructions, Owner training requirements, record documents, etc. required in the Specifications should be generated by the Construction Manager and shared the Contractor, Architect, and Owner.

3.03 FIRST NOTIFICATION ON PUNCHLIST AND CLOSEOUT COMPLETION

- A. Once the official Substantial Completion Punchlist for the Project is issued to the Contractor for the entire Project or major portion thereof, the Contractor shall consider the issuance of this Punchlist as their first notification that all Project Closeout and Final Completion Documentation must be completed within sixty (60) calendar days (or earlier if required elsewhere in the Contract Documents) of the date of the Project (or major portion thereof) Substantial Completion Date or the date of the official punchlist. failure to achieve Final Completion within that timeframe may result in the Owner supplementing the Contractor's Work and assessing any and all costs for such action against the Contractor. In Addition, the Owner will assess the Contractor for all costs for extended services for the Owner's consultants as a result of the Contractor's failure to complete their punchlist and closeout Work within the required timeframes.
1. The Construction Manager should issue the first formal letter to the Contractor with the official punchlist citing the requirements and expectations to complete all punchlist and closeout items in accordance with the Contract Documents and include the associated consequences of failing to meet the requirements.

3.04 CLOSEOUT AND CONSTRUCTION CONFERENCES

- A. After Substantial Completion, the Construction Manager and the Contractors shall continue to conduct closeout meetings weekly or bi-weekly during the closeout period which is to be no more than sixty (60) calendar days from the date of Substantial Completion of the Project. These meetings shall include Review of all closeout issues, punchlists, training, spare parts, warranties, Operation and Maintenance manuals, record drawings, change orders, and final invoicing. Minutes will be generated and distributed by the Construction Manager.

3.05 SECOND NOTIFICATION ON PUNCHLIST AND CLOSEOUT COMPLETION

- A. Twenty (20) days after the issuance of the official punchlist for the Project or major portion thereof, the Contractor shall consider the twenty (20) calendar day time lapse as a second notification that all punchlist and closeout items must be completed within no more than sixty (60) calendar days (or earlier if required elsewhere in the Contract Documents) of the date of Substantial completion or the date of the official punchlist. Failure to achieve Final Completion within that timeframe may result in the Owner supplementing the Contractor's Work and assessing any and all costs for such action against the Contractor. In addition, the Owner will assess the contractor for all costs for extended services for the Owner's consultants as a result of the Contractor's failure to complete their punchlist and closeout

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Work within the required timeframes.

1. The Construction Manager should issue a second formal letter to the Contractor citing the requirements and expectations to complete all punchlist and closeout items in accordance with the Contract Documents and include the associated consequences of failing to meet the requirements.

3.06 THIRD NOTIFICATION ON PUNCHLIST AND CLOSEOUT COMPLETION

- A. Ten (10) days prior to the required Final completion Date of the Project or major portion thereof, the Contractor shall consider this time period as its third notification that all punchlist and closeout items must be completed with no more than sixty (60) calendar days (or earlier if required elsewhere in the contract Documents) of the date of Substantial Completion or the date of the official punchlist. Failure to achieve Final Completion within that timeframe may result in the Owner supplementing the Contractor's Work and assessing any and all costs for such action against the Contractor. In addition, the Owner will assess the Contractor for all costs for extended service for the Owner's consultants as a result of the Contractor's failure to complete their punchlist and closeout Work within the required timeframes.

1. The Construction Manager should issue a third formal letter to the Contractor citing the requirements and expectations to complete all punchlist and closeout items in accordance with the Contract Documents and include the associated consequence of failing to meet the requirements.

3.07 MITIGATING COSTS

- A. Immediately after the required Final Completion Date of the Project or major portion thereof, should the Contractor have failed to satisfy the requirements to complete all punchlist and closeout items within the timeframes outlined in the Contract Documents, the Contractor is advised that Liquidated Damages and costs from the Owner against the Contractor are being accrued as of the required Final Completion date and the Contractor is strongly encourage to expedite the completion of any outstanding items to mitigate their exposure. The Owner will continue any actions it may have taken to complete contractor's Work until such time as all outstanding items are completed. It is in the best interest of the Contractor to help complete their own Work to mitigate costs.

1. The Construction Manager should issue a follow-up letter to the Contractor, along with a list of the remaining outstanding items, and advise the Contractor of charges being accrued against them for liquidated damages, Consultants' extended services expenses, and any supplementation costs that may have been implemented by the Owner. Contractor shall take action to expedite completion of outstanding items to mitigate the charges being accrued against them.

3.08 GENERAL WORKFLOW FOR CLOSEOUT

- A. Conduct General Closeout Requirement Meeting approximately three (3) months prior to Substantial Completion; include closeout requirement checklist/log.
- B. Preliminary Punchlist is prepared for with Substantial Completion Inspection request within two (2) Calendar days of the required date for Substantial Completion.
- C. Substantial Completion and Punchlist is issued to Contractors. This is the First Notice that Contractors have no more than sixty (60) calendar days to complete all Closeout and Punchlist item requirements.
- D. Closeout Meetings: Continue weekly or biweekly team meeting for up sixty (60) calendar days from the date of Substantial Completion's Official Punchlist.
- E. Closeout and Punchlists Completed: Second Notice to Contractors twenty (20) calendar days after the date of the Substantial Completion Official Punchlist. Contractors should be working to get all items completed.
- F. Closeout and Punchlist Completed: Third Notice to Contractors within 10 days of the required Final completion Date of the Project or major portion thereof. Contractors should be working to get all items

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completed.

- G. Final completion: Closeout and Punchlist items must be completed within sixty (60) calendar days (or earlier if required in the Contract Documents). Failure to complete will result in charges against the Contractor. Contractors should not put themselves in this position and should have completed their work in the required timeframes.

END OF SECTION 01701

SECTION 01710-CLEANING

PART 1 – GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Execute cleaning and disposal of waste materials, debris, and rubbish during construction.
- B. Final cleaning of project, including exterior.

1.02 RELATED REQUIREMENTS

- A. General Conditions of the Contract: Cleaning Up.
- B. Section 00010, Bid Package Descriptions
- C. Section 01701, Contract Closeout Procedure
- D. Individual Specifications Sections: Specific cleaning for product or work.

1.03 REQUIREMENTS OF REGULATORY AGENCIES

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-Pollution laws.

1.04 DESCRIPTION

- A. Maintain areas under Contractor's control free of waste materials, debris, and rubbish. Maintain site in A clean and orderly condition.
- B. Covered containers for deposit of debris and rubbish will be provided under the General Trades Contract, including periodic disposal of accumulations of extraneous materials.
- C. Weekly clean interior areas to provide suitable conditions for finish work.
- D. Execute final cleaning prior to inspection for Substantial Completion of the Work.
- E. General Trades Contractor will provide and maintain two (2) trash chutes for use by all contractors. Location will be determined by Construction Manager.
- F. **Each** on-site Contractor **will** provide personnel for one (1) full day, as directed by the Construction Manager, per week to participate in a general trash clean-up of the project. Personnel as follows: one (1) person when the Contractor's average number of on-site workers for the preceding week (including Subcontractors' workers) was 1 to 10; two (2) persons when the contractor's average workforce the Preceding week was 11 to 20; etc. Failure to provide the requested manpower with 24 hours will result in backcharge from the Owner for that day's cleanup of \$400 per day required per man.
- G. However, this does not preclude each Contractor from cleaning up their particular debris on a daily basis. If the Contractor fails to perform daily cleanup, the Owner may do so and charge applicable costs to the Contractor. Failure to provide the requested manpower within twenty-four (24) hours will result in a backcharge for cleanup.

PART 2 – PRODUCTS

2.01 CLEANING MATERIALS

- A. USE ONLY those materials which will not create hazards to health or property, and which will not damage finished and surfaces.
- B. USE ONLY materials and methods recommended by manufacturer of material being cleaned.

PART 3 – EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute daily cleaning, or as often as needed, to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.
- B. Dispose of waste materials, cartons, crating, debris, and rubbish at designated waste receptor provided under the General Trades Contract (i.e. dumpster, truck, etc.), and which shall be disposed of at legal disposal area away from the site by the General Trades Contractor.
- C. To maintain a clean and orderly site, contractor personnel will not be allowed to eat meals within the confines of the building.

3.02 DUST CONTROL

- A. General Trades Contractor shall broom clean interior spaces PRIOR TO THE start of finish painting and continue cleaning on an as-needed basis until painting is finished.
- B. Schedule operations so that dust and other contaminants resulting from cleaning process WILL NOT FALL on wet or newly-coated surfaces.

3.03 DISPOSAL

- A. Unless stated otherwise in Bid Package Descriptions, General Trades Contractor will remove collected waste materials, debris, and rubbish from site weekly and dispose of off-site.

3.04 FINAL CLEANING

- A. General Trades Contractor shall:
 - 1. Employ skilled workers for final cleaning.
 - 2. Remove temporary protection and labels not required to remain.
 - 3. Clean surfaces free of grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels and other foreign materials from sight-exposed interior and exterior surfaces.
 - 4. Clean transparent glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.
 - 5. Vacuum clean carpeted and similar soft surfaces as specified.
 - 6. Clean, wax and polish resilient and hard-surfaced floor per owner's requirements (four (4) coats minimum or additional, if required by manufacturer recommendations). This may be than noted in the specification sections.
 - 7. Clean surfaces of equipment; remove excess lubrication.
 - 8. Clean plumbing fixtures, food service equipment, hospital equipment, and similar equipment to a sanitary condition.
 - 9. Clean light fixtures, lamps, and lenses.
 - 10. Remove waste, foreign matter, and debris from roofs, gutters, area ways, and drainage systems.
 - 11. Remove waste, debris, and surplus materials from site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep. Rake clean other exterior surfaces.
 - 12. A final cleaning of all interior and exterior surfaces shall be performed by the General Trades Contractor no earlier than one (1) week prior to Owner Occupancy of each phase of the Project.

END OF SECTION 01710

SECTION 01720 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Maintenance of Record Documents and Samples.
- B. Submittal of Record Documents and Samples.

1.02 RELATED REQUIREMENTS

- A. General Conditions of the Contract: Documents at the site.
- B. Section 01340, Shop Drawings Product Data and Samples.
- C. Section 01701, Contract Closeout Procedures.
- D. Section 01730, Operation and Maintenance Data
- E. Individual Specification Sections: Manufacturer's certificates of inspection.

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store Record Documents and Samples in field office apart from documents used for construction. Provide files, racks, and secure storage for Record Documents and Samples.
- B. Label and file Record Documents and Samples in accordance with Section number listing in Table of Contents of this Project Manual. label each document "PROJECT RECORD" in neat, large, printed letters.
- C. Maintain Record Documents in a clean, dry, and legible condition. DO NOT use Record Documents for construction purposes.
- D. Keep Record Documents and Samples available for inspection by Architect/Engineer/Construction Manager.

1.04 RECORDING

- A. Label each document "PROJECT RECORD" in neat large printed letters.
- B. Provide felt tip marking pens, maintaining separate colors for each major system, for recording information on prints. At completion of project, the contractor shall transfer all marks to sepia to be provided. The sepia shall show all pertinent changes and shall be marked "As Built", dated and signed by contractor. Submit "As Built" documents to Architect and Construction Manager for their review and approval.
- C. Record information concurrently with construction progress. DO NOT CONCEAL any work until required information is recorded.
- D. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction, including:
 - 1. Measured depths of elements of foundation in relation to finish first floor datum.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Measured location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the construction.
 - 4. Field changes of dimension and detail.
 - 5. Changes made by Modifications
 - 6. Details not on original Contract Drawings.
 - 7. References to related Shop Drawings and Modifications.

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- E. Specifications: Legibly mark each item to record actual construction, including:
 - 1. Manufacturer, trade name, catalog number of each product actually installed, particularly optional items and substitute items.
 - 2. Changes made by Addenda and Modifications.
- F. Other Documents: Maintain manufacturer's certifications, inspection certifications, field test records, and other similar items required by individual Specification sections.

1.05 SUBMITTAL

- A. At Contract closeout, deliver Record Documents and Samples under provisions of Section 01701.
- B. Transmit with cover letter in duplicate, listing:
 - 1. Date
 - 2. Project title and number
 - 3. Contractor's name, address, and telephone number
 - 4. Title and number of each Record Document
 - 5. Signature of Contractor or his authorized representative

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01730 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Format and content of manuals.
- B. Instruction of Owner's personnel.
- C. Schedule of submittals

1.02 RELATED REQUIREMENTS

- A. Section 01340, Shop Drawings Product Data and Samples
- B. Section 01701, Contract Closeout Procedures
- C. Section 01720, Project Record Documents
- D. Section 01740, Warranties and Bonds
- E. Individual Specification Sections: Specific requirements for operation and maintenance data.

1.03 QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operation of the described products.

1.04 FORMAT

- A. Prepare data in the form of an instructional manual for use by Owner's personnel.
- B. Binders: Commercial quality, 8-1/2" x 11" three-ring binders with hardback, cleanable, plastic covers; one" maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- C. Covers: Identify each binder with typed or printed title "OPERATION AND MAINTENANCE INSTRUCTIONS"; list title of Project and identify separate structures as applicable; identify subject matter of contents.
- D. Arrange content by systems, under section numbers and sequence of Table of Contents of this Project Manual.
- E. Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
- G. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.05 CONTENTS, EACH VOLUME

- A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect/Engineer and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
- B. For each Product or System: List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.

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- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relations to component parts of equipment and systems, to show control and flow diagrams.
- E. Typed Text: As required to supplement product data. provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- F. Warranties and Bonds: Bind in copy of each warranty or maintenance bond (if required) in a separate binder, labeled "Warranties and/or Bonds".

1.06 MANUAL FOR MATERIALS AND FINISHES

- A. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations.
- B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture-Protection and Weather-Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspection, maintenance, and repair.
- D. Additional Requirements: As specified in individual specifications Sections.

1.07 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Give function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replacement parts.
- B. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications.
- C. Include as-installed color coded wiring diagrams.
- D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include manufacturer's printed operation and maintenance instructions.
- H. Include sequence of operation by controls manufacturer.
- I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Provide as-installed control diagrams by controls manufacturer.
- K. Provide Contractor's coordination drawings, with as-installed color coded piping diagrams.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

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- M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Additional Requirements: As specified in individual Specification sections.
- O. Provide complete information, "As Appropriate to This Project", for products specified in all divisions of the specification.

1.08 INSTRUCTION OF OWNER PERSONNEL

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems at agreed upon times. For equipment requiring seasonal operation, perform instructions for other seasons within six months of substantial completion.
- B. Use operation and maintenance manuals as basis of instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- C. Prepare and insert additional data in Operation Maintenance Manual when need for such data becomes apparent during instruction.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01740 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Preparation and submittal of warranties and bonds.
- B. Schedule of submittals.

1.02 RELATED REQUIREMENTS

- A. Instruction to Bidders: Bid Bonds
- B. General Conditions of the Contract: Performance Bond and Labor and Material Payment Bonds, Warranty, and Correction of Work.
- C. Section 01701, Contract Closeout Procedures.
- D. Section 01730, Operation and Maintenance Data
- E. Individual Specification Sections: Warranties and bonds required for specific Products or Work.

1.03 FORM OF SUBMITTALS

- A. Bind in commercial quality 8-1/2" x 11" three-ring side binders, with hardback, cleanable, plastic covers.
- B. Label cover of each binder with typed or printed title "WARRANTIES AND BONDS", with title of Project; name, address and telephone number of Contractor; and name of responsible principal.
- C. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of Product or work item.
- D. Separate each warranty or bond with index tab sheets keyed to Table of Contents listing. Provide full information, using separate typed sheets as necessary. List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

1.04 PREPARATION OF SUBMITTALS

- A. Obtain warranties and bonds, executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within **ten (10) days** after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.

1.05 TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within **ten (10) days** after acceptance.
- B. Make other submittals within **ten (10) days** after Date of Substantial Completion, prior to final Application for Payment.

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1.06 SUBMITTALS REQUIRED

- A. Submit Warranties, Bonds, Service and Maintenance Contracts as specified in the respective Sections of the Specifications, "As Appropriate to This Project".

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01780 – SAFETY

PART 1 – GENERAL

1.01 SUMMARY

- A. It is recognized that the safety of all personnel is the responsibility of all Contractors involved directly in the construction of this Project. It is the contractual obligations of each Contractor to adhere to all requirements of the Occupational Health and Safety Act (OSHA), as well as Local and State safety rules and regulations. Each Contractor shall assure the safety of his personnel, by providing all protection and safety devices, covers, etc. as they relate to the safe conduct of his work in accordance with all Local, State, and Federal regulations and assure his plant and equipment meet all applicable safety regulations. Each Contractor is responsible for any safety requirements that are contractually those of any Contractor.

PART 2 – PRODUCTS

Not applicable to this section.

PART 3 – EXECUTION

3.01 ACCIDENTS

- A. The Contractor shall notify the Construction Manager of any personal injury that could require medical treatment and/or fatality within 8 hours of the accident of any Contractor's or his Subcontractor's employees at the project site. Also, any damage to property arising in connection with the Contractor's performance should be told to the Construction Manager as promptly as possible after the occurrence of such injury or damage, but at the maximum, 24 hours. Within forty-eight (48) hours of such occurrence, the Contractor shall furnish to the Construction Manager a complete written report of such injury or damage. Accident Reports shall include specific actions taken by the Contractor to preclude recurrence of similar incidents.

3.02 EMERGENCY DATA

- A. Each Contractor shall provide the Construction Manager with (2) copies of the following emergency data prior to beginning work at the project site:
1. Emergency care facility to be utilized, address, and telephone number.
 2. Insurance Company and local agent/name, address and telephone number.
 3. Detailed description of overall corporation or company safety program.
 4. Employees qualified in any type of first aid, list employee and associated skill.
 5. Detailed description of specifically tailored jobsite safety program.
 6. Identify corporate and jobsite safety officer.
 7. Submit weekly TOOL BOX SAFETY TALK program/meeting minutes including:
 - a. Day of week.
 - b. Time of day
 - c. Location
 - d. Attendance record
 - e. Agenda
 - f. Unsafe items previously discussed, date of correction
 - g. Identify on-site personnel with FIRST AID training
 8. All applicable MSDS Program Sheets (Include numbered pages and table of contents).
 9. Submit completed hazardous substance survey form.
 10. Review project "Emergency Response Plan" with Construction Manager

3.03 HOUSEKEEPING

- A. Indiscriminate accumulations of debris, waste, or scrap in work areas will not be permitted. (Areas will be designated for storage or disposal.) All materials, tools, and equipment must be stored in an orderly manner in designated areas.

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3.04 EMPLOYEE RULES

- A. The Construction Manager may recommend General Safety Topics to enable Contractor's Supervising Personnel to train employees if a Contractor request such assistance.

3.05 PERSONAL PROTECTION EQUIPMENT

- A. Contractors must furnish their employees with the proper type of personal protective equipment, as required by the operations being performed, i.e.:
 - 1. Hard Hat must be furnished to employees and worn at ALL times when on this project, whether or not an overhead hazard exists or what stage the project may be in.
 - 2. Safety Goggles must be furnished to employees and worn at all items when the operations being performed present the danger of any eye injury.
 - 3. Safety Harnesses/Lanyards must be furnished and worn whenever employees are working in an area where falls from heights are possible.
 - 4. The Construction Manager requires that appropriate attire be worn at all times while employees are working onsite. Appropriate attire shall be as deemed necessary by the Construction Manager and in accordance with all applicable OSHA regulations.
 - 5. Per OSHA all work above six feet in height requires fall protection and only OSHA approved man lifts may be used to lift persons to higher work elevations.

3.06 SAFETY MEETINGS

- A. The Contractor is required to conduct and all employees are required to attend a "Tool Box" type safety meeting once a week. These meetings may either be presided over by Contractor's foreman or another competent representative designated by the Contractor.
- B. The Contractor will be responsible to submit weekly tool box safety meeting minutes to the Construction Manager while the Contractor has employees onsite.

3.07 FIRE PROTECTION

- A. The fire protection plan will be drawn up, executed and administered by the General Trades Contractor. However, where necessary, each Contractor must supply approved type fire extinguisher for emergency use within his own immediate area of operation, including the Contractor's office, tool, and storage enclosures.

3.08 TREATMENT OF INJURIES

- A. The Contractor shall require that all employees injured (no matter how slight) while working on this project, report immediately for First Aid Treatment. The Contractor shall maintain adequate First Air Facilities in the field.

END OF SECTION 01780